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ABSTRACT

Comparisons of 174 elementary education majors with 178 secondary education majors at a midwestern university revealed important similarities and differences in high school academic preparations, teaching experiences, career plans, general orientations to teaching, and educational beliefs. Analysis of responses to a 210 item survey questionnaire highlighted potential differences that should be considered in the design and conduct of courses and programs in teacher education: (1) Compared with their secondary education counterparts, a relatively large number of elementary majors had relatively weak academic backgrounds in science and mathematics; (2) Elementary education majors were more likely to have participated in teaching activities involving groups of children; (3) At the time they entered a teacher preparation program, a higher proportion of elementary majors were committed to a career in teaching; (4) Elementary majors were more likely to look to coursework in instructional methods and educational psychology as very important sources of professional knowledge; (5) Secondary education majors evidenced a stronger commitment to teaching subject matter; (6) Elementary majors evidenced a stronger orientation toward students; and (7) The educational beliefs of elementary and secondary teacher candidates were remarkably similar. (JD)

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Comparing Academic Backgrounds, Career Decisions, and Educational Beliefs of Elementary and Secondary Teacher Education Candidates

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Abstract

Comparisons of 174 elementary education majors with 178 secondary education majors at a major midwestern university revealed important similarities and differences in high school academic preparations, teaching experiences, career plans, general orientations to teaching and educational beliefs.

Comparing Academic Backgrounds, Career Decisions, and Educational Beliefs of Elementary and Secondary Teacher Education Candidates

Most teacher education programs include at least some courses that are offered to both elementary and secondary candidates. Yet, the professional literature has paid little attention to ways in which the academic backgrounds and educational beliefs of these two groups differ. Thus, despite the admonition that teachers should begin "where their students are", teacher education faculty at most institutions rely on intuition rather than on empirical data in the design and conduct of courses offered to both elementary and secondary candidates.

This study is part of a comprehensive program evaluation effort at Michigan State University. Earlier reports described characteristics of candidates entering MSU's teacher education programs (Book, Byers, & Freeman, 1983) and compared demographic characteristics and career aspirations of teaching and non-teaching majors (Book, Freeman & Brousseau, 1984). This investigation focuses on important similarities and differences among elementary and secondary candidates at the time they enter a teacher preparation program. Although there are obvious limits in the scope and generalizability of findings, the purpose of this report is to stimulate discussions of potential differences among secondary and elementary candidates that should be considered in course and program development in teacher education.

Specifically, this study sought answers to three questions:

1. Do the high school backgrounds of teacher candidates of elementary and secondary teacher candidates differ?

2. In what ways do the bases for career decisions differ between elementary and secondary teacher candidates?

3. In what ways do the educational beliefs of elementary and secondary teacher candidates differ?

Procedures

The elementary and secondary teacher candidates in this report represent 352 students who completed the "Entering Teacher Candidate Survey" (Freeman and Undergraduate Program Evaluation Committee, 1983) during the first week of the first education course required of both elementary and secondary education majors at Michigan State University (MSU). The sample included 174 elementary education majors and 178 secondary education majors. Ninety-one percent of the elementary education majors were female, compared to 58% of the secondary education majors. Ninety-seven percent of both groups were Caucasian. Approximately 30% of the individuals in both groups were college sophomores, 51% were juniors and 19% were seniors.

The "Entering Teacher Candidate Survey" consists of 210 items divided into six sections: high school background and activities, college background, career plans, general orientation to teaching, general background information, and educational beliefs. The educational beliefs section asks respondents to use a five point

Likert scale to indicate their extent of agreement with each of 60 belief statements. The instrument considers beliefs about students, the curriculum, the social context of education, teachers, and pedagogy.

Chi-square tests were used to compare responses of elementary and secondary candidates to selected items on the questionnaire. Tests of significance in all analyses were conducted with the probability of a Type I error fixed at .05. Unless otherwise noted, differences between elementary and secondary candidates that are cited in this report were significant at that level.

Results

High School Backgrounds: Both elementary and secondary teaching majors were mainly from public high schools (89%). However, relative to their secondary education counterparts, a higher percentage of those anticipating careers in elementary education came from relatively large high schools - more than 300 students in the graduating class (65% vs. 51%) located in suburban settings (64% vs. 47%). During their high school years, both groups completed college preparatory programs (see Table 1). Elementary education majors were more likely than secondary education majors to take three or more years of social science courses such as psychology, sociology, or anthropology. However, elementary education majors did not complete as many years of natural science or mathematics courses as their secondary education

counterparts. Furthermore, once in college, almost twice as many elementary education majors as secondary education candidates reported having to take remedial math (36% vs. 20%).

Insert Table 1 about here

There was basically no difference in the students' levels of activity in high school extra-curricular events, such as band, theatre, debate, or cheerleading. Also, about 45% of the individuals in both groups reported that a lot of their time was devoted to a part-time job. In terms of experiences with children while in high school, elementary majors were much more likely than their secondary counterparts to serve as Sunday School teachers (27% vs. 13%), to have baby-sat (93% vs. 66%), and to have worked with handicapped children (30% vs. 18%). Although not statistically significant, a higher proportion of elementary candidates also reported that they worked as swimming instructors (14% vs. 10%) or participated in other teaching activities involving groups of children (48% vs. 39%).

Career Decisions: Thirty-eight percent of elementary education majors compared to 23% of the secondary education majors said that teaching was the only career they were considering at this point in time. While 46% of both groups expect to teach approximately 5-10 years and another 46% plan to teach beyond 10 years, a significantly larger proportion of those elementary majors who do not plan to teach for more than ten years expect to leave teaching

to raise a family (52% vs. 20%). On the other hand, more secondary education majors than elementary majors expect to leave teaching to take or prepare for a career outside of education (48% vs. 13%). Since MSU's elementary education majors were predominantly female, these findings support Jamar and Ervay's (1983) conclusion that "the percentage of women for whom career goals become secondary to familial goals increases over time" (p. 593).

When asked to cite reasons why they wanted to become a teacher, the two items both groups were most likely to check were: "through teaching I can help students gain a sense of personal achievement and self-esteem" (96% elementary and 90% secondary) and "through teaching I can help youngsters become excited about learning new things" (95% elementary and 90% secondary). As reported in Table 2, elementary majors were more likely than secondary majors to indicate their desire to: (a) work with children, (b) help others less fortunate than themselves, and (c) help students develop an appreciation of cultures other than their own. They were also more likely to agree that teaching is a good career for women. On the other hand, secondary education majors were more likely than elementary majors to choose teaching in order: (a) to apply what they learned in their major field, and (b) to help students gain knowledge and understanding of subject matter they consider to be important. They were also more likely to look upon teaching as providing on opportunity to do other things such as coaching or school administration.

Insert Table 2 about here

Overall, these results are consistent with findings reported by Jantzen (1981). Both studies suggest that a "strong service motive" is a dominate reason college students choose teaching. This study indicates that this orientation is particularly strong among elementary candidates. The results also confirm Jantzen's findings that "the enthusiasm of a former teacher" strongly influenced the decision of these students to pursue a teaching career. In this study, 21% of the elementary majors and 32% of the secondary majors indicated that a former teacher was particularly influential in their choice of a career in teaching.

In an earlier study we contrasted entering teacher candidates with students enrolled in an introductory course in communication. Relative to teacher candidates, a higher proportion of the non-educational students (27% vs. 14%) reported that they were not as successful as they had hoped to be in courses that would have prepared them for their initial choice of careers (Book, Freeman, Brousseau, 1984). An important finding of this study is that elementary and secondary education majors did not differ in their responses to this question; only about 14 percent of the individuals in both groups indicated that teaching was selected after unsuccessful attempts in coursework that would have prepared them for their initial choice of careers.

Expectations About Sources of Professional Knowledge: When asked to make projections about sources that will contribute to the professional knowledge they will need for teaching, a majority of candidates in both groups reported that courses in the content area(s) they will teach, on-the-job experience, and structured experiences in schools will be of crucial importance. However, elementary education majors' ratings of the importance of instructional methods courses, educational psychology courses, and courses or lab experiences that focus on the synthesis of educational knowledge and practice were higher than those of their secondary counterparts. On the other hand, a higher proportion of secondary than elementary majors rated their own experiences as a student in the K-12 system as very important or crucial to their acquisition of requisite professional knowledge (62% vs. 47%).

Confidence in Teaching: When entering candidates were asked, "how confident are you that you could succeed now as a full-time teacher with no further coursework or experiences in education?," a somewhat higher proportion of secondary than elementary majors reported that they had high or complete confidence in their current abilities (12% vs. 8%). However, this difference was not statistically significant (Chi-square = 8.91; p = .06). There were also no between group differences in the levels of confidence reported for their abilities to perform most of the specific teaching roles cited on the survey. For example, about 28% of the members of both groups reported that they have no confidence in

their current ability to work with students with special needs (e.g., serious learning problems). Nevertheless, a higher proportion of secondary than elementary majors had high or complete confidence that they can "maximize understanding of the subject matter" (23% vs. 11%) or "decide what content to teach" (22% vs. 10%).

Orientations to Teaching: Only 50% of the individuals of both groups believed that promoting academic development is a more important goal of schooling than promoting personal, social, or vocational development; 37% picked personal development as the most important goal. A higher proportion of elementary than secondary education majors said that responding appropriately to differences in the academic, social, and cultural backgrounds of individual students is the most essential of four factors that will contribute to their success as teachers (32% elementary vs. 16% secondary). On the other hand, a higher proportion of secondary majors believed that communicating knowledge at a level students will understand will be more essential to their success in teaching than three other factors (49% vs. 35%). Nevertheless, survey results provide support for the popular belief that secondary majors are more likely than elementary majors to be subject matter oriented. Given a set of three choices (i.e., knowledge of subject matter sensitivity to the social dynamics of the classroom, and sensitivity to the cultural backgrounds of students), more secondary than elementary education majors identified subject

matter knowledge as the quality that is most characteristic of exceptional teachers they have known (40% vs. 27%). A higher proportion of elementary than secondary candidates named sensitivity to the social dynamics of the classroom as most characteristic of exceptional teachers they have known (65% elementary vs. 55% secondary).

Educational Beliefs: Overall, the educational beliefs of the elementary and secondary education majors were remarkably similar. Chi-square analysis suggested that elementary and secondary teacher candidates differed in their pattern of responding to only five of the sixty belief statements on the inventory. Furthermore, differences in mean levels of response were negligible for two of these items. In general, elementary education majors were somewhat more likely than their secondary counterparts to strongly disagree that: (1) "only those students whose intelligence is well above average are capable of learning advanced science and mathematics" (25% vs. 14%) and that (2) "one of the most effective ways for teachers to increase motivation is to stimulate competition among students" (15% vs. 9%). On the other hand, secondary candidates were much more likely to disagree or strongly disagree that, "the ultimate criterion in deciding what to include in the curriculum should be: "Does this content have practical application in daily living?" (45% vs. 24%). A review of the 55 belief statements for which the responses of elementary and secondary teacher candidates were similar indicates that the two groups were usually willing to

take a stance on educational issues. In terms of the social and personal development of students, the majority of individuals in both groups agreed or strongly agreed that:

1. All school-aged youngsters are capable of learning to accept responsibility for their own actions.
2. Special efforts should be made to mainstream as many handicapped children as possible into the regular classroom.
3. Learning that is motivated by intrinsic rewards (e.g., needs and interests) is superior to that which is motivated by extrinsic rewards (e.g., grades, special awards, privileges).
4. One of the most effective ways for teachers to increase motivation is to stimulate competition among students.
5. Risk taking and making mistakes are essential components of social, emotional, and intellectual development.
6. A variety of face-to-face interactions with individuals from diverse cultures will not necessarily promote understanding and acceptance of those cultures.
7. Schools can reduce racism among students.

On the other hand, most disagreed or strongly disagreed that "If a school district can finance only one local special needs program, that program should be for academically gifted students rather than for slow learners," and that "It is fair to regular students for teachers to devote more time and attention to mainstreamed or other exceptional students."

When considering the roles and responsibilities of the teacher, a majority of individuals in both groups agreed or strongly agreed that:

1. Teachers should establish and enforce clear-cut rules for acceptable student behavior.

2. Teachers should not relate to students as personal friends.

3. Teachers should strive to establish an informal, student-centered classroom rather than a businesslike, teacher-centered atmosphere.

4. Teachers should be given considerable latitude in deciding what content to teach in their own classrooms.

5. It is a teacher's responsibility to identify, and compensate for examples of cultural and sexual stereotyping in textbooks and other instructional materials.

When considering issues of instructional design, the majority of individuals in both groups agreed or strongly agreed that:

1. Planning for instruction should almost always begin with a systematic diagnosis of student needs.

2. Teachers are obligated to provide all of their students with the remediation necessary to achieve mastery of essential knowledge and skills.

3. The development and delivery of a lesson plan should always be guided by a clear statement of what students are expected to learn.

4. Because each group of students has a unique set of needs, teachers should develop different instructional objectives for each class.

However, most disagreed or strongly disagreed that: "In general, teachers should view decisions of 'what to teach' is more important than decisions of 'how to teach.'"

In terms of their potential sphere of influence as teachers, a majority agreed or strongly agreed that:

1. Self-concepts and levels of academic achievement of individual students tend to conform to the expectations of their teachers.

2. To be a good teacher, one must continually test and refine the assumptions and beliefs that guide his/her approach to teaching.

There were a few items which did not generate a clear majority opinion. These items included:

1. Schools should function as agents to change society rather than as reinforcers of the status quo.

2. Teachers with a preponderance of low income students should rely primarily on teacher directed, whole group instruction.

3. Teachers in grades 4-6 should assign at least one hour of homework every night.

4. Teachers should offer special encouragement to girls to do well in science and mathematics.

5. Teachers should expect all of their students to go beyond "minimum competency" levels that have been identified for their courses.

6. At least 25% of the courses offered in a high school should be specifically designed to make schools more tolerable for achieving students.

7. Subject-matter courses should stress the way knowledge is developed and tested in the corresponding academic disciplines (e.g., why statements are or are not accepted as historical facts).

8. When a teaching strategy works in one class, it is very likely to work in a different class with the same age group, subject, and teacher.

Summary

Despite clear limits in scope and generalizability, this study suggests that elementary and secondary education majors differ in many important ways. The following summary is intended to stimulate discussions of potential differences that should be

considered in the design and conduct of courses and programs in teacher education.

1. Compared with their secondary education counterparts, a relatively large number of elementary majors had relatively weak academic backgrounds in science and mathematics. During high school, nearly one-half of the elementary majors completed less than three years of science; about one-third had less than three years of math.
2. Elementary education majors were more likely than secondary majors to have participated in teaching activities involving groups of children; the proportion of elementary majors who had worked as Sunday School teachers (27%) was approximately double that of secondary majors (13%). In addition, more elementary than secondary majors had worked with handicapped children (30% vs. 18%).
3. At the time they entered a teacher preparation program, a higher proportion of elementary than secondary majors were committed to a career in teaching. Elementary majors were more likely to have chosen teaching as a career because they love to work with children (89% vs. 68%) and because teaching provides an opportunity to help others less fortunate than themselves (59% vs. 46%) or to help students develop an appreciation for other cultures (72% vs. 52%); secondary education majors were more likely to

have chosen teaching to apply what they learned in their major field (75% vs. 52%) and because teaching provides an opportunity to help students gain knowledge and understanding of important subject matter (87% vs. 70%).

4. In thinking about the sources of the professional knowledge they will need for teaching, elementary majors were more likely than secondary majors to look to coursework in instructional methods and educational psychology as very important sources of that knowledge. On the other hand, more secondary than elementary majors viewed their own experiences as K-12 students as very important. Among the secondary education majors in this sample, experiences as K-12 students often took place in small high schools located in rural settings.
5. Secondary education majors evidenced a stronger commitment to teaching subject matter than was true of their elementary counterparts. A higher proportion of secondary than elementary candidates also had high or complete confidence in their abilities to "maximize student understanding of subject matter" and to "decide what content to teach."
6. Elementary education majors evidenced a stronger orientation toward students than was true of their secondary education counterparts. Evidence of this orientation was especially clear in regard to their reasons for choosing teaching as a career.

7. The educational beliefs of elementary and secondary teacher candidates were remarkably similar. Those differences which did occur were small in number and difficult to interpret. However, they tended to have a position on the belief statements rather than be ambivalent.

Table 1

Percent of Students Completing Three or More Years of High School Coursework in Specific Subjects

	English	Natural Science	Math	Social Science	History/ Soc.Studies	Fine Arts	Foreign Language
Elementary	91.4	54.3	65.3	24.0	57.8	48.8	33.9
Secondary	91.1	68.6	79.5	14.8	48.3	48.8	26.4
Chi-square (df=4)	8.51	9.74*	12.14*	14.86*	4.91	1.72	6.66

Note. *=$p<.05$

Table 2

Chi-square Tests of Differences in Reasons for Choosing Teaching as a Career Cited by Elementary and Secondary Education Majors

	Elementary	Secondary	Chi-square (df=1)
Teaching provides an opportunity to be creative	74	67	2.04
Quality of education must be improved	77	83	1.52
I love to work with children	89	68	23.30*
I have always enjoyed school	46	51	0.76
I can help others less fortunate than myself	59	46	5.42*
Teaching is a good career for women	38	23	9.54*
I was not as successful as I had hoped to be in courses that would have prepared me for my initial choice of careers	14	14	0.00
Persons I respect encouraged me to teach	47	49	0.19
I can apply what I have learned in my major	52	75	21.29*
Teaching and scholarship go hand in hand	13	18	1.35
Teachers' salaries are at least adequate	41	49	2.27
Teachers have a lot of time off	37	47	3.11
Teaching will provide an opportunity to do other things (e.g., coach)	50	62	5.53*
Through teaching, I can help students gain a sense of personal achievement and self-esteem	96	90	4.23
Through teaching, I can help students develop an appreciation for other cultures	72	61	5.01*
My abilities are best suited for teaching	66	68	0.17
Through teaching, I can help students gain knowledge and understanding of important subject matter	70	87	15.18*
I am more likely to gain personal achievement and satisfaction in teaching than in other careers	80	75	1.16
I can help youngsters become excited about learning	95	90	2.93

Notes. Entries are percents

*=$p<.05$

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